

THE INVENTION CLAIMED IS

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1. A system for detection and treatment of unwanted agents within air inside of an enclosed airspace that is a gathering area for people, comprising:

 a detection system for detecting said unwanted agents within said air,
 a treatment system, and
 a control, responsive to said detection system, for activating said treatment system in response to detection of said unwanted agents within said air.

2. The system for the detection and treatment of unwanted agents of claim 1 wherein said detection system utilizes immunoassays, such as antibody based or synthetic-peptide based immunoassays.

3. The system for the detection and treatment of unwanted agents of claim 1 wherein said detection system utilizes nucleic-acid-based assays, such as the polymerase chain reaction immunoassays.

4. The system for the detection and treatment of unwanted agents of claim 1 wherein said detection system utilizes mass-spectrometric-based assays.

5. The system for the detection and treatment of unwanted agents of claim 1 wherein said detection system utilizes a plurality of assays, such as antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays, such as the polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

6. The system for the detection and treatment of unwanted agents of claim 1 including a control connected to said treatment system and said circulation system for inactivating said circulation system if said treatment system shuts down prematurely.

7. A method for the detection and treatment of unwanted agents within the air inside of an enclosed airspace that is a gathering area for people, the air circulated in an air stream, comprising:

circulating said air within said air stream,
detecting said unwanted agents,
generating a signal upon detection of said unwanted agents, and
using the signal to activate a treatment system connected to said air
stream.

8. The method for the detection and treatment of chemical and
biological agents of claim 7, including the step of stopping said circulation
system if said treatment system shuts down.

9. An apparatus that detects the presence of airborne chemical
and/or biological threats to the human occupants of an enclosed airspace that
is served by a forced-air circulation system, comprising:
an autonomous chemical and pathogen detector within the said
forced-air circulation system.

10. An apparatus that detects and identifies the presence of
airborne chemical and/or biological threats to the human occupants of an
enclosed airspace that is served by a forced-air circulation system comprising:
an autonomous chemical and pathogen detector within the said
forced-air circulation system.

11. An apparatus that detects, identifies, and quantifies the presence of airborne chemical and/or biological threats to the human occupants of an enclosed airspace that is served by a forced-air circulation system comprising:

an autonomous chemical and pathogen detector within the said forced-air circulation system.

12. The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes immunoassays, such as antibody based or synthetic-peptide based immunoassays.

13. The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes nucleic-acid-based assays, such as the polymerase chain reaction.

14. The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes mass-spectrometric-based assays.

15. The apparatus of claim 11 wherein said autonomous chemical and pathogen detector utilizes a plurality of assays, such as antibody based or synthetic-peptide based immunoassays, nucleic-acid-based assays, such as

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the polymerase chain reaction immunoassays, and mass-spectrometric-based assays.

16. The apparatus of claim 11 including a system that treats the airborne threat using electrostatic precipitation.

17. The apparatus of claim 11 including a system that treats the airborne threat using an aqueous-based spray/aerosol scrubbing system.

18. The apparatus of claim 11 including a system that treats the airborne threat using both electrostatic precipitation and an aqueous-based spray/aerosol scrubbing system.

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